METHOD FOR PAYING A USER FEE PROPOSED BY A SERVICE PROVIDER

5   The invention relates to a method for paying a user fee proposed by a service provider in accordance with the preamble of Claim 1.

It is generally known that in communication networks fees
10   for communication services are debited from credit accounts maintained in these communication networks (known as prepaid accounts). In such cases these credit accounts are assigned to one or more communication terminals (e.g. fixed network telephones, mobiles, PDAs
15   (Personal Digital Assistants), notebooks, computers) registered in the communication network. Some of these credit accounts are also assigned to subscribers, for example a number of members of a family who use one terminal. Such a communication terminal may continue to
20   establish and execute communication connections for as long as the credit account assigned to it remains in credit. If the credit for paying the fee is used up, no more communication connections can be established or existing communication connections are interrupted.
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Furthermore there are methods known whereby the credit account is maintained in the communication network in which the communication connections are also established and thereby the services are provided. The operator of
30   this type of communication network has access to the credit accounts maintained in his communication network and can accordingly deduct credit amounts from the credit account for the services provided in the communication network.

In modern communication networks mechanisms are now known by which even service providers who are independent of the communication network can provide services for the

5   terminals connected to the communication network; The communication network is in such cases "opened up" as it were to the independent providers. Independent service providers here should be taken to mean those providers who are not the operator of the communication network.

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These types of mechanism are known under the name of OSA (Open Service Architecture) or Parlay. Such independent service providers are also referred to as "Third Party Service Providers".

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For example, in so-called electronic commerce (e-commerce) there is the need to execute payment transactions using communication networks. Such payment transactions can arise when goods or services subject to

20 a fee are provided over the communication networks for example (e.g. supply of information, data or goods). The Internet or telecommunication networks (mobile radio network, fixed-line networks) are typically used as these types of communication networks. To pay for the goods or

25 services methods are for example needed for cashless payment using a mobile terminal (e.g. a mobile phone, a laptop, Personal Digital Assistant PDA or palmtop) and/or an Internet terminal (e.g. Internet computer).
The disadvantage of these e-/m-commerce systems is that

30 at the time that services are requested by a user the account must have sufficient credit to cover the fee.
The underlying object of the invention is to specify a method for paying a user fee proposed by a service

provider which guarantees increased flexibility in the handling of billing.

This object is achieved, using as its starting point the
5   method for paying a user fee proposed by a service provider in accord of the preamble of Claim 1, by the characterizing features of said claim.

With the method in accordance with the invention for
10   paying a user fee proposed by a service provider by a user's terminal, in which, for the use of a service by a fee is determined by a billing device and the deduction of the fee from a service user's credit account is initiated, a time for the execution of the service can be
15   defined at the time that the service is requested, with the point at which the fee is deducted being dependent on the execution time.

The method in accordance with the invention gives greater
20   flexibility for execution of payment transactions within the framework of the usage of services. One of the ways in which this flexibility is expressed is that the service user can exert influence on the point at which the fee is deducted and/or level of the fee by explicitly
25   selecting the execution time, and another is that he generally has the freedom to have services executed at a point other than the point at which they were requested.

In a possible further development a level of fee arising
30   at the point of execution is determined at the time of the request and, after the execution time is determined, the deduction of the fee is initiated at the time of the request. This method of operation is especially

advantageous if the price for providing the service
diverges over time, so that although the service user's
account is debited at the time of the request, he can
still reduce the costs arising by skillful selection of
5   the execution time. This is helpful for example if the
credit account does not cover the costs for using the
service at the time of the request.

Alternatively, after the execution time is defined, the
10   deduction of the fee is initiated at the point of
execution. The advantage of this is that if the service
user has insufficient credit at the time of the request
for example, despite the funds being unavailable to cover
it, the service can still be requested, since the amount
15   is not deducted until later and the service user is given
the opportunity to stock up the account with credit
accordingly by the execution time. This variant thus
allows the service user an increased level of control
over his fees, even if the prices for the service do not
20   diverge over time, or allows the service to be used
despite there being insufficient credit in the account to
cover it at the time of the request.

If the price of a service diverges as a function of the
25   time at which it is executed, optimum flexibility in
timing and costs is obtained if a level of the fee
arising at the point of service execution is also
determined at the time of request. This means that both
the credit can be preserved at the time of the request
30   and a reduction in the costs arising can be achieved.

Preferably, at the time of the request, before the
execution time is determined by the terminal, at least a

first service request message is sent to the billing
device, with the service request message, in addition to
parameters identifying the service, also containing its
execution time, so the determination of the level of fees

5   can be initiated by the billing device on the basis of
the execution time and/or the parameters, with the level
of fees determined subsequently being transmitted to the
terminal and displayed to the service user together with
a request to enter a confirmation, so that, on

10   confirmation on the part of the service user the
execution time is determined and this is transmitted to
the billing device and the billing device, at the point
at which the service is executed, then attempts to deduct
the fee from the service user's credit, with, if the

15   attempt is successful, the provision of the service by
the service provider being released by the billing
device, by the transfer of a corresponding message to the
service provider for example. This further development
guarantees a simple-to-implement execution sequence, with

20   the execution of transactions related to the payment of
fees by the billing device having the advantage that the
method in accordance with the invention can essentially
be employed in existing e-/m-commerce (payment) systems
without any great modification, since in such systems in

25   general billing for services by a billing device is
implemented as a standardized interface, for example an
interface in accordance with "PayCircle" or the "Open
Service Access (OSA)" standard.

30   Advantageously in this case the execution time can be
rejected by entering an alternative execution time and/or
entering the alternative execution time, with steps a) to
c) repeated with the alternative execution time. A

negotiation of the desired time is implemented with this methodology.

Preferably the amount of the fee is determined in this case by a device for determining billing, taking into account at least one tariff model, after initiation on the part of the billing device by the transfer of a suitable message, with at least the parameters of the desired service as well as execution time. It is advantageous for determination of payment amounts by a billing device for existing payment rating facilities, for example the "Least Cost Routing" system, to be able to be included to support the inventive method. On the one hand this reduces the effort involved in implementation since it involves accessing existing systems which essentially only have to be slightly adapted and on the other hand redundancy in the provision of functions is avoided or available resources are used more effectively. In addition existing billing devices can essentially be used, which enhances the advantages already mentioned.

If at least one tariff table is administered by the payment rating device to take account of the tariff model, the tariff rating can be simply implemented by using a table. In addition administration ensures that current tariff models are always available.

Further advantages and details of the invention are explained with reference to the single Figure. The drawing shows

Figure   a schematic diagram of the execution sequence according to an exemplary

embodiment of the method in accordance
with the invention.

The Figure shows the execution sequence of the method in
accordance with the invention using an application
scenario as an exemplary embodiment. This scenario
assumes that a service user USER possesses a multimedia-
enabled terminal PC, for example a Personal Computer, as
well as having a credit account available on a PREPAID
SERVER.

As an alternative to or supplementary to the exemplary
embodiment, the service user can also have a BILLING
CENTER system which implements billing at the end of a
billing cycle by producing a bill - i.e. by sending a
bill BILLING, so that the actual payment occurs after the
service i.e. "post-paid".

The inventive method is employed in accordance with the
scenario when the USER wishes to make use of a service
provided by a SERVICE PROVIDER, in this example a video
stream that can be played back on his terminal.

To do this the USER, in a first step S1, establishes a
connection via his terminal PC to the SERVICE PROVIDER,
with the term SERVICE PROVIDER being used below as a
simple way of referring to any arrangement which
implements the service. Using the connection, which is
generally bidirectional as a result of the exchange of
data in both directions, the USER requests the SERVICE
PROVIDER to transmit this video stream to him, with the
execution time being at night, i.e. not at the time that
the request is made.

As part of this request, the data identifying the service, for example the video title, and the resulting parameters, for example the duration of the video stream,

5   are transmitted to the SERVICE PROVIDER.

Using this data and also the execution time, the SERVICE PROVIDER, in a second step S2, initiates a payment transaction, which, as is normal in e-/m-commerce

10   systems, is to be executed by a standardized interface for payment handling (payment interface or payment server) PAYMENT SERVER.

Since at this point the data still does not contain any

15   price indication, an inquiry to determine the payment is initiated in a third step S3 by the PAYMENT SERVER. To this end, in accordance with the exemplary embodiment, a separate RATING SERVER. is provided in which the current tariff model of the SERVICE PROVIDER is stored, in the

20   form of a table for example. At the request of the PAYMENT SERVER the price is determined on the basis of the data associated with the service request as well as customer-specific data such as any usage discount arising or a loyalty bonus, in which case, in accordance with the

25   scenario of the exemplary embodiment, the SERVICE PROVIDER offers the download of video streams at a more favorable rate at night so that a correspondingly more favorable fee is determined by the RATING SERVER.

30   The level of the fee determined is subsequently transmitted in a fourth step S4 to the PAYMENT SERVER and transmitted from this server in a fifth step S5 directly to the terminal PC of the USER and displayed to the USER

there.

If the USER agrees with the amount billed he authorizes
the transaction. I.e. he conforms his service request
5   made in the first step S1, so that in a sixth step S6,
the data associated with the transaction is stored in a
database of the PAYMENT SERVER and also in a seventh step
S7 a confirmation is transmitted by the PAYMENT SERVER to
the SERVICE PROVIDER indicating to the SERVICE PROVIDER
10   that the payment transaction that it has initiated has
been authorized by the USER and the data has been stored
in the PAYMENT SERVER, so that the SERVICE PROVIDER for
its part can make arrangements for the service to be
provided at the desired point in time.
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When the execution time is reached, in an eighth step S8,
the PAYMENT SERVER attempts to deduct the fee previously
determined. This can be done by debiting the PREPAID
SERVER credit account or alternatively or additionally by
20   billing (post-paid) via a BILLING CENTER.

If the deduction process is successful, in a ninth step
S9 the SERVICE PROVIDER receives a message, with which
the release of the provision of the service is indicated,
25   so that in a tenth step S10 the video download can be
undertaken by the terminal PC of the USER.

If the deduction process in the eighth step S8 via the
billing system is completed, the billing process is
30   completed in an eleventh step S11 by sending BILLING at
the end of the billing cycle, for example at the end of
the month.

As an alternative to the process described it is also
conceivable that the USER does not agree to the fee
proposed.

5   In this case the USER could specify another execution
time. It is also conceivable for the USER, in the first
step S1 when requesting the service, to have a number of
alternative times with the corresponding fees or the
tariff model of the SERVICE-PROVIDER displayed on his
10   terminal.

The invention is not to be restricted solely to the
example shown but is to include variations, for example
in the sequence of the procedural steps discussed.
15   Variations of the arrangement scenario should also be
included. Thus it is conceivable for example for the
PAYMENT SERVER to include the RATING SERVER, i.e. for the
PAYMENT SERVER to implement the functionality of the
steps of the RATING SERVER. It is also conceivable for
20   the PAYMENT SERVER and/or the RATING SERVER to be part of
the SERVICE PROVIDER.

An infrastructure necessary for the units to communicate
is typically provided, as is usual with e-/m-commerce
25   systems, by a mobile radio network or other communication
networks, with at least part of the arrangement
described, for example the BILLING CENTER or the PREPAID
SERVER maintaining the credit accounts, being assigned to
the network provider.